

# WIRELESS 8-CHANNEL THERMOCOUPLE MONITOR FOR EXTREME TEMPERATURE ENVIRONMENTS

## *The ThermoBiscuit™*

- Thermally insulated to withstand extreme operating temperatures
- Food safe stainless steel enclosure
- T type thermocouples standard (E, J, K, N, R & S types available)
- Automatic open thermocouple detection
- Automatic cold junction compensation
- Automatic low battery detection
- Automatic battery life estimation
- Transmits up to 30m (100')\*  
(\* under optimal environmental conditions)



The ThermoBiscuit is a full featured, eight (8) channel wireless thermocouple monitor designed for the foodservice industry. When used with DataLink™ software from Magna, the ThermoBiscuit wirelessly reports and records temperature data from inside ovens, cooling tunnels and freezer lines. Temperature data is available immediately and may be monitored during process steps for real-time analysis and action. The system automatically alerts users to open thermocouples and weak battery conditions. Acquired data is easily manipulated using popular Windows™ programs such as Excel®, PowerPoint® and Word®.

### **Inputs**

The ThermoBiscuit comes with 8 T-type thermocouples of customer specified length and termination. Teflon® protected thermocouple beads are often desirable, but a variety of termination types are available to meet any need, including insertion probes for monitoring internal dough or product temperatures. During initialization the ThermoBiscuit records the type of thermocouple attached to each channel and will alert users to open or damaged thermocouples.

### **Sampling Rates**

The ThermoBiscuit can be configured to sample all eight channels at rates ranging from days to 5 Hz (200 ms intervals).

### **Communications**

Communication with the ThermoBiscuit is achieved via a proprietary wireless networking protocol operating in the ISM band. Each unit has a unique identifier allowing concurrent use of multiple units as well as multiple measurement networks in the same physical space.

### **Additional Required Equipment**

The ThermoBiscuit requires the use of:

- 1) GateWay™, wireless network access point
- 2) DataLink™, data acquisition and display software

## ThermoBiscuit Specifications

### Thermocouple Inputs-

**Number of Channels:** 8

**Thermocouple Types:** T-type standard  
Also available: Types E, J, K, N, R & S

**Cold Junction Compensation:** Automatic

### Thermocouple Characteristics:

Type	Range (°C)	Accuracy*	Resolution
T	-270 to 400	± 0.5°C	0.1 °C

\*Errors are for the ThermoBiscuit only and do not include the thermocouple error

### Monitoring & Data Recording-

Sampling rate user settable from days to 5 samples /second

All samples time stamped at acquisition

Programmable start time or start on command

Programmable test end time or end on command

Measurements stored or relayed in real-time

### General Specifications-

**Humidity:** 5 to 95% RH non-condensing

**Vibration:** 10 g (rms 20 Hz to 2000 Hz)

**Shock:** 3 foot drop

**Power:** Two AA style batteries

**Battery Life:** 1.5 yrs at 1 sample / min.

**Time Accuracy:** ± 1 min / month

### Communications Interface:

ISM band radio (868 / 915 MHz)

<sup>†</sup>Changes or modifications to the ThermoBiscuit not approved by Magna Systems may void the user's authority to operate the equipment.

**Storage Temperature Range:** -40 to 120 °C

### Weight:

ThermoBiscuit only: 150 gm  
(5.29 oz)

ThermoBiscuit with batteries: 210 gm  
(7.40 oz)

### Thermal Operating Environment:

**Maximum Operating Temperature:**

260°C / 500°F for up to 39 minutes  
(with ThermoSleeve™)

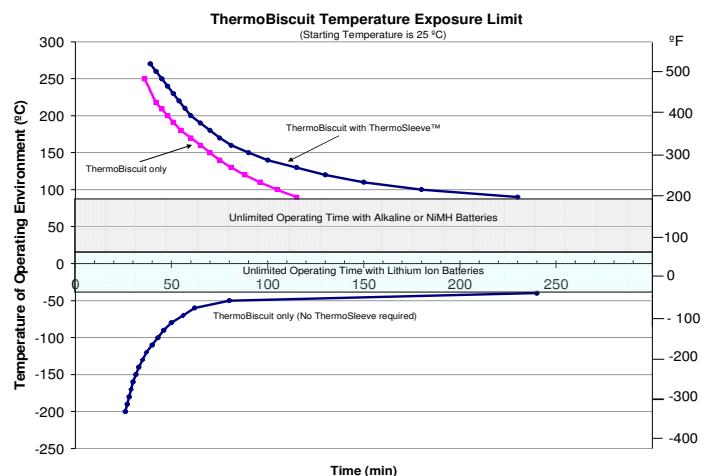
**Minimum Operating Temperature:**

-200°C / -328°F for up to 26 minutes

Continuous operating temperature range:

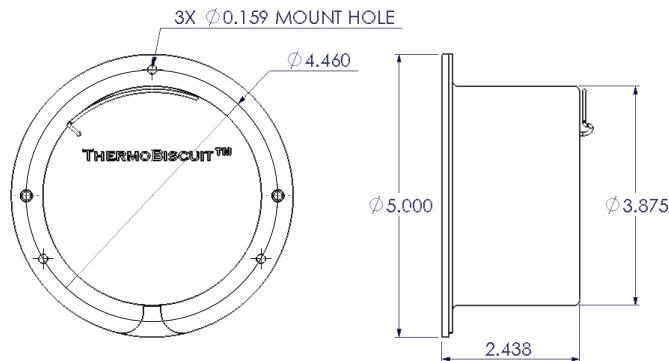
-40 to 80°C (-40 to 176°F)

### Time vs Temperature Curves



**Enclosure:** 304 stainless steel

### Dimensions:



For more information or to order contact us at 1-888-9 MAGNA 9 (962-4629).



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